EXPANSION PROJECT

MAJOR ISSUES

United States Department of Agriculture | Forest Service | Black Hills National Forest | Nemo Ranger Dist. 460 Main Street Deadwood, SD 57732

Reply to: 2820

Date: August 17, 1989

David Miller Jr.
730 Jonas, Apt. #34
Spearfish, SD 57783

Dear Dave:

I am in receipt of your letter addressed to Don Murray regarding the selection of the third-party contractor for the Brohm Gilt Edge Expansion project. Don was not involved in the selection process hence he has no direct knowledge of what took place. As I was the Forest Service Officer that was responsible for the selection, I will respond to your questions in the order presented.

QUESTION 1:

The first indication of possible expansion of the operations at Brohm was in a conversation held in my office in early November 1987. All discussions about the potential expansion were very general in nature as even Brohm did not know the extent of the mineral deposit and did not know if an expansion was technically or economically feasible. The rest of the conversation was what would be required of the mining company in the event the expansion involved National Forest System Land. I informed the company that any use of National Forest surface acres involving cyanide would require an EIS and that any significant land disturbance would require an EIS. This information was based upon my knowledge of the National Environmental Policy Act and 20 years of experience in the Forest Service conducting environmental analysis. The first time it was ever mentioned that the Forest Service would consider utilizing a third-party contractor was in November 1987. The context was that if the Black Hills National Forest had to do an EIS we had insufficient financing in minerals to do the job and our budget process is always two years ahead. Brohm was informed that third-party contracting was an alternative to waiting two years for our budget process. Brohm indicated they would prefer to pay for a contractor rather than wait. Sometime in December 1987, Brohm solicited statements of qualifications from potential environmental contractors. The requests for statements of qualifications were based upon information I provided Brohm about the probable expertise that would be needed to analyze environmental, social, and economic issues. The information regarding expertise was relayed to Brohm officials verbally at a meeting sometime the first week in December 1987. The actual proposals from potential contractors were received by Brohm in April and May 1988.

I have provided you with a chronological sequence of events to the best of my recollection. For purposes of answering the question as to when the selection process began, it was probably at the point the proposals were received and review commenced by me in May 1988. There is limited correspondence and you may review whatever is in our files that is not designated confidential. Some but not all of the proposals were stamped confidential by the potential contractors.

QUESTION 2:

The NEPA process was definitely not new to the Nemo District, but the acquisition of a third party contractor was something we had not previously done. I made contacts with District Rangers or members of their staffs on districts in Colorado that had used third party contractors for ski area expansion and reservoir EIS's and had similar contacts with districts in Nevada that had used contractors for mining proposals. The information I relied on most heavily was received from the Mountain City District of the Humbolt N.F. in Nevada. Again there is limited written correspondence but you are welcome to review whatever we have in the files.

QUESTION 3:

It is not accurate to say that I requested a list of contractors and selected from the list. What actually occurred was Brohm sent out a request for statements of qualifications to twelve environmental consulting firms. What we were looking for at this time was actual experience in conducting environmental analysis and EIS preparation on mining proposals. Six of the twelve had experience in this area and they were asked to submit proposals. Four of the six then in fact submitted proposals. The final four were Engineering Science, CH2M Hill, EnecoTech, and ERT (now known as ENSR).

Paul Mock and I personally reviewed the four proposals independent of one another after having developed selection criteria. I also checked on the work record of the four companies. This review was conducted during May and June of 1988. A final selection of the contractor was not made until March 23, 1989, because officially we did not have a proposal and hence no need for a contractor until the plan of operation was formally submitted to us on March 15,1989. There is no formal Record of Decision but rather a letter to Brohm confirming the selection of ENSR as the contractor. This letter is dated March 23, 1989, and is available for your review. Any other correspondence in our files pertaining to the selection is also available.

QUESTION 4:

It is unclear to me what you mean by specific cases in other states that influenced my selection of the contractor. If you mean, were there mining projects that the various contractors worked on that displayed experience and competence in environmental analysis and EIS preparation that I used in my evaluation, the answer is a definite yes.

Experience, especially lead contractor experience on large, complicated, and/or controversial projects was viewed by me to be more credible for our situation in the Black Hills as opposed to experience on small projects, experience as a sub-contractor vs. prime contractor, or projects outside the United States where the laws and regulations are different. I made a concerted effort to match up past experience and expertise of the contractor with the needs that the Black Hills National Forest had for a contractor that could do a highly professional job on what was to be a large and very controversial proposal. I have attached a summary list of experience for ENSR. You may review the full statement of qualifications in my office as it is to voluminous to copy.

QUESTION 5:

You may review the proposals that have not been designated "confidential" by the contractors. I have enclosed a copy of 36 CFR 228.6 which pertains to the confidentiality of information on mining proposals.

QUESTION 6:

I don't know what is "normal" on a nationwide basis for initiating a list of potential contractors. Region 4 (Idaho, Utah, Nevada) which has the most experience with third-party contractors developed a "how to" document entitled "Effective Use of Third-Party Contractors," for regional use on mining proposals. I used this document as a guide for developing our Memorandum of Understanding with Brohm. This document is silent on how to initiate a list. You may review this document in my office. I will tell you now that one major difference in their procedure and the one I used is that they jointly select the contractor as opposed to the situation here where the Forest Service selected the contractor.

The Federal Procurement Regulations do not apply to this contractor selection because the entire contact is proponent funded. The basic requirement is that the proponent supply the Forest Service with a contractor that has the expertise and experience to accomplish a quality job of environmental analysis and EIS preparation that complies with federal laws and regulations. If the contractors submitting proposals had not had the required expertise and experience, I would have rejected all the proposals and requested another list of contractors from which to make a selection.

I have supplied you with all the information pertaining to the selection of the third-party contractor. I assure you that my primary objective in the selection of the contractor was to get the best possible firm to assist the Forest Service with the EIS. I feel that I have accomplished that objective and have represented the publics best interest by selecting ENSR. I find it ironic that you and others are greatly concerned about how ENSR was selected but nobody questions their qualifications. I get the impression from your letter, letters to the editor, and comments at various meetings that there is a perception that the selection of ENSR in some manner is a conflict of interest or misrepresentation of the public interest. As I have mentioned on several occasions, ENSR works for the Black Hills National Forest and takes direction from me not from any employee of Brohm. ENSR has also signed a statement of Conflict of Interest and Objectivity Certification which you may review at my office. Violation of this certification is punishable by both fines and imprisonment.

I have tried to answer all of your questions and sincerely hope you understand the process we utilized even if you don't agree with it. If you wish to review documents in my office please set up an appointment and I will go through the files with you personally.

Sincerly,

David E Blackford

DAVID E. BLACKFORD
District Ranger

Enclosures

cc: ENSR
Brohm Mining Co
Forest Supervisor

DEB:rw

Representative Project Experience

ERT's staff has worked on over 5,500 projects since 1968. In this section we have selected a few of the more representative projects to demonstrate our depth of experience in mining, environmental permitting, and preparation of EIS documents.

Project	Client	Location
Jerritt Canyon Gold Mine/Mill	Freeport Minerals Co. & FMC Corp.	NV
Nevada Moly Mine and Mill	Anaconda Copper Co.	NV
Borealis Gold Mine & Heap Leach Operation	Houston International Minerals Corp.	NV
Paradise Peak Gold and Silver Mine/Mill	FMC Corp.	NV
Re-Opening of Virginia City Mining District	United Mining Corp. of Nevada, Inc.	NV
Longstreet Mine Assessment	Naneco Resources Ltd.	NV
Blackbird Cobalt and Copper Mine/Mill	Noranda Mining Inc.	ID
Getchell Gold Mine Project	FRM Minerals Corp.	NV
Round Mountain Gold Mine	Echo Bay Ltd.	NV
Great Falls Copper Refinery Assessment	Anaconda Copper Co.	MT
Anaconda Copper Smelter Superfund Site	Anaconda Copper Co.	MT
Copper Mountain Uranium Mine/Mill	Rocky Mountain Energy Co.	WY
Summitville Gold Mine/Mill	Anaconda Minerals Co.	CO
Sherman Mine (Iowa Gulch) Water Quality Study	Hecla Mining Co.	CO
Yak Tunnel/California Gulch Superfund Site	ASARCO, Inc.	CO
Rich Gulch Gold Mine	Inca Mining Corp.	CA
Santa Barbara County Mining Development	Confidential	CA
Lead Chloride Separation Facility	St. Joe Minerals Co.	MO
Viburnum No. 35 Lead Mine	St. Joe Minerals Co.	MO
Nome Offshore Gold Placer Project	Inspiration Gold, Inc.	AK
Matanuska Mine Mouth Power Plant and Coal Mine	Rocky Mountain Energy Co.	AK
Studies for Licensing Mining Operations	Confidential	AK
Diamond Chuitna Coal Mine & Port Facility	Diamond Shamrock Corp.	AK
Steese Mineralization Project	Houston International Minerals Co.	AK
Tugidak Island Beach Placer Operation	Confidential	AK

For further details regarding the items listed above, please refer to the project descriptions on the following pages.

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(5) Notify the operator that the plan cannot be approved until a final environmental statement has been prepared and filed with the Council on Environmental Quality as provided in § 228.4(f).

(b) *Pending* final approval of the plan of operations, the authorized officer will approve such operations as may be necessary for timely compliance with the requirements of Federal and State laws, so long as such operations are conducted so as to minimize environmental impacts as prescribed by the authorized officer in accordance with the standards contained in § 228.8.

(c) A supplemental plan or plans of operations provided for in § 228.4(d) and a modification of an approved operating plan as provided for in § 228.4(e) shall be subject to approval by the authorized officer in the same manner as the initial plan of operations: *Provided, however,* That a modification of an approved plan of operations under § 228.4(e) shall be subject to approval by the immediate superior of the authorized officer in cases where it has been determined that a modification is required.

(d) In the provisions for review of operating plans, the Forest Service will arrange for consultation with appropriate agencies of the Department of the Interior with respect to significant technical questions concerning the character of unique geologic conditions and special exploration and development systems, techniques, and equipment, and with respect to mineral values, mineral resources, and mineral reserves. Further, the operator may request the Forest Service to arrange for similar consultations with appropriate agencies of the U.S. Department of the Interior for a review of operating plans.

§ 228.6 Availability of information to the public.

Except as provided herein, all information and data submitted by an operator pursuant to the regulations in this part shall be available for examination by the public at the Office of the District Ranger in accordance with the provisions of 7 CFR 1.1–1.6 and 36 CFR 200.5–200.10. Specifically identified information and data submitted by the operator as confidential concerning trade secrets or privileged commercial or financial information will not be available for public examination. Information and data to be withheld from public examination may include, but is not limited to known or estimated outline of the mineral deposits and their location, attitude, extent, outcrops, and content, and the known or planned location of exploration pits, drill holes, excavations pertaining to location and entry pursuant to the United States mining laws, and other commercial information which relates to competitive rights of the operator.

§ 228.7 Inspection, noncompliance.

(a) Forest Officers shall periodically inspect operations to determine if the operator is complying with the regulations in this part and an approved plan of operations.

(b) If an operator fails to comply with the regulations or his approved plan of operations and the noncompliance is unnecessarily or unreasonably causing injury, loss or damage to surface resources the authorized officer shall serve a notice of noncompliance upon the operator or his agent in person or by certified mail. Such notice shall describe the noncompliance and shall specify the action to comply and the time within which such action is to be completed, generally not to exceed thirty (30) days: *Provided, however,* That days during which the area of operations is inaccessible shall not be included when computing the number of days allowed for compliance.

§ 228.8 Requirements for environmental protection.

All operations shall be conducted so as, where feasible, to minimize adverse environmental impacts on National Forest surface resources, including the following requirements:

(a) *Air Quality.* Operator shall comply with applicable Federal and State air quality standards, including

11 August 1989

Don Murray
United States Forest Service
Deadwood, S.D. %7732

Dear Don;

I'm writing to confirm my telephone inquiry of 7 August 1989 during which I told you I'd send you my specific questions on the Forest Service's selection of the Brohm contractor for an Environmental Impact Statement. You said, in that conversation, that the Nemo District Office was almost soley responsible for the contractor selection process that I refer to. That in mind my questions follow.

First, on which date or general dates, was the contractor selection process initiated? Is there correspondence, written information of any kind, that I can examine on this part of the process?

Second, you indicated that this process was new to the Nemo District and that Nemo had thus relied upon Forest Serice offices in Nevada and Idaho for advice on how to proceed. May I examine all written material, correspondence included, between Nemo and any other Forest Service offices that were involved, including offices other than, as well as within, Idaho and Nevada? Likewise, would you provide me with the names of any Idaho or Nevada Forest Service personnel who were in any way involved?

Third; you said that, at a later stage, the Forest Service asked Brohm to provide a list of contractors and, that being done, the Forest Service reviewed the same list and selected the contractor(E.N.S.R.). May I see that list, the Forest Service Record of Decision, and any and all information relating to the same decision? I would be especiall interested in any correspondence with Brohm Mining Corp. on the same subject and decision.

Fourth, are there(were there)specific cases involving the Forest Service in Nevada, Idaho or other areas, upon which Nemo District based its contractor selection process or was at least influenced? If so, please cite the same.

Fifth, may I review the various proposals that were submitted by the various contractors?

Sixth, is it normal for the Forest Service to initiate or complete contractor selection for an EIS of this magnitude by going to the mining industry and asking it to provide the original list in the first place? Is this the way that the Forest Service did it-or does it-in Nevada or Idaho? If so, what specific portions of the Code of Federal Regulations guided you on this?

I realize that these are not all easy questions to answer, but they are very important questions as far as the public interest is concerned. They are also very important in so far as Brohm is concerned. So I mean nothing critical toward you in this last comment.

I intend to get answers to my questions because I must. If I cannot get answers at the District level, say so. That will save me time in going on the the supervisor; or the regional office; or, failing there, the Chief's office. I will get answers because I must. It isn't as if I have a choice on this matter. I wish I did.

Thanks very much for your previous help on this matter and for any assistance that you lend me now.

Dave Miller, Jr.

Sunrise, Mt. McKinley Ansel Adams

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LEGAL DEFENSE FUND, INC.

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Honolulu, HI 96813
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August 1, 1989

David E. Blackford, District Ranger
Nemo Ranger District
Black Hills National Forest
460 Main
Deadwood, SD 57732

Dear Mr. Blackford:

We are monitoring the proposal by Brohm Mining Corporation to use hundreds of acres of unpatented National Forest System lands to dispose of tailings and waste rock from its planned open-pit gold mine near Deadwood, South Dakota. Please place us on your mailing list so that we may receive further information concerning Brohm's proposal.

Thank you for your help.

Very truly yours,

Rolf G. Asphaug
Law Associate

NEMO RANGER DISTRICT
BLACK HILLS N.F.
AUG - 3 1989

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MINERAL POLICY CENTER

• 1325 MASSACHUSETTS AVENUE NW #550 • WASHINGTON, DC • 20005 • 202-737-1872 •

2 August 1989

District Ranger David Blackford
Nemo Ranger District
Black Hills National Forest
460 Main Street
Deadwood, South Dakota 57732

Dear Mr. Blackford:

The Mineral Policy Center is an independent national non-profit organization dedicated to improving the regulation of environmental impacts of mining. We believe that the responsible mining industry, and the public, are best served by fair, firm, controls to prevent environmental damage.

Please send us copies of the Scoping Statement and all other public releases regarding the Brohm Mining Corporation's proposed expansion. Also, please send us copies of all future draft and final studies and other public notices issued regarding this project.

Thank you for your assistance. Best wishes for a successful NEPA process.

Sincerely,

Philip M. Hocker,
President

NEMO RANGER DISTRICT
BLACK HILLS N.F.
AUG - 8 1989

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United States Department of the Interior

BUREAU OF MINES

P. O. BOX 25086
BUILDING 20, DENVER FEDERAL CENTER
DENVER, COLORADO 80225

Intermountain Field Operations Center

August 1, 1989

Memorandum:

To: Don Murray, Mineral Specialist, Nemo Ranger District, Black Hills National Forest. 460 Main Street, Lead, South Dakota

From: Chief, Intermountain Field Operations Center

Subject: Preparation of draft environmental impact statement (DEIS) for Gilt Edge Mine Expansion

Personnel of the Intermountain Field Operations Center, Bureau of Mines, have reviewed the Plan of Operations for the Gilt Edge Mine Expansion that was submitted to your office by Brohm Mining Corporation. The purpose of this review is to provide Bureau of Mines comments on areas of concern that we believe should be addressed in the draft environmental statement (DEIS). Many of the items addressed in this letter may already be included in the DEIS work underway, however, we would like to express our concerns prior to completion and issuance of the DEIS for review. Bureau of Mines personnel look forward to reviewing the DEIS when it is available.

William Cochran, Chief
Intermountain Field Operations Center

United States Department of the Interior

BUREAU OF MINES

P. O. BOX 25086
BUILDING 20, DENVER FEDERAL CENTER
DENVER, COLORADO 80225

Intermountain Field Operations Center

August 1, 1989

Don Murray, Mineral Specialist
Nemo Ranger District
Black Hills National Forest
460 Main
Deadwood, South Dakota 57732

Dear Sir;

Subject: Preparation of draft environmental impact statement (DEIS) for Gilt Edge Mine Expansion

On behalf of the Bureau of Mines, I have reviewed the Gilt Edge Mine Expansion Plan to evaluate the possible impacts on mineral resources not included in the planned mining operation and examine possible adverse impacts on the environment as a result of the planned activities at the expanded mine facility. Some comments included herein reflect the types of problems that have been documented by the South Dakota Department of Water & Natural Resources at mining operations in the Black Hills area in recent years.

The following comments will follow the general order of items discussed in the Project Description section of the Plan of Operations.

Geology

Proposed Plant Site

The document states, "This area has been characterized as being unaltered and unmineralized based on surface observations." If surface observations are indeed the only basis for this determination, more information is needed to substantiate it. We suggest the plant site area be further investigated when the site is drilled to check bedrock conditions prior to final design of the building foundations.

Proposed Waste Sites and Tailings Disposal Site

The sites are known to have old mine workings and prospecting areas. Before the sites are developed for the planned uses they need to be fully investigated. The possibility of acid mine drainage being generated from the

old mines as a result of changes in the local water table when the areas are being filled with waste rock or tailings should be addressed. If the old workings are not adequately sealed from oxygen exposure a raised water table, or water passing from the waste or tailings disposal sites into old workings, could result in acid drainage. That acid drainage could in turn work through the bedrock and exit through surface openings some distance away or seep along the contact of the basin seals and the original ground surface. To prevent such possible contamination problems, if there are in fact old mine openings in the disposal areas, we believe they should be sealed prior to construction of the underdrains.

The area in Lost Gulch where the tailings disposal dam is to be located has had mine claims on it (Ross R. Grunwald, Geology and Mineral Deposits of the Galena Mining District, Black Hills, South Dakota, PhD Thesis, South Dakota School of Mines and Technology, 1970, p. 10). During our preliminary literature search we were unable to discover what, if any, mineralization was found on the claims. A recent USGS Bulletin (no. 1580) shows section 33 as having a high resource potential for high-calcium limestone (Pahasapa Limestone) and a moderate resource potential for gold and silver in small veins. We suggest a thorough mineral examination be conducted in this area of Lost Gulch.

The document states there are exposures of Mississippian Pahasapa Limestone to the east and northeast of the proposed tailings disposal site. A recently published geologic map of the area (USGS Map I-1910) shows the Pahasapa Limestone to be very close to the proposed dam embankment and the proposed spillway location. Because this limestone is a known aquifer, a thorough investigation of the possibility of contaminants entering the aquifer either at the dam site or along Bear Butte Creek, where the limestone crops out in several locations, should be undertaken. The reclamation plan map (1019.100) indicates there will be some unprocessed mineralized rock at or near the surface in part of the waste rock disposal area and the report states there will be some sulfide ore in the waste rock (primarily pyrite). A close examination of the acid forming potential of the unprocessed mineralized rock and waste rock will be needed to determine if there is the possibility of acid drainage from that source. The drainage pattern for the waste rock disposal areas flows through the tailings disposal area drainage channel and over the spillway into a natural drainage system to Bear Butte Creek. If acid drainage is generated there would be several places it could enter the aquifer.

Although not mentioned in the report, faults have been mapped (USGS Map I-1910) in the tailings disposal area (section 33). Apparently, the faults are at or near the contact of the Pahasapa Limestone and latitic intrusives. The faults will have to be located precisely to avoid problems with the tailings disposal dam and the reclaim water pond that will be located just downstream of the dam. Fault fractured rocks would provide many routes for water to escape the containment system and pose a possibility of resultant rock or mud slides if the faults become saturated.

Hydrology

Ground and Surface Water

Ground water in the unconfined near surface material will be susceptible to contamination if a spill of any kind should occur. The bedrock aquifer units are generally confined and we believe it unlikely that contaminants would enter these zones. The semi-confined sedimentary sequence in the Lost Gulch area should be protected from inflows from the tailings disposal area. The limestone in this area is fractured and known to contain numerous cavities. The document does not describe the lining material to be used in the tailings disposal area, but the basin should be sealed. Numerous monitoring wells will be required to obtain adequate water quality data and to monitor future conditions.

Large quantities of water are expected to flow into the open pit during mining with especially high inflow expected when particularly porous shear zones are mined. The report mentions that Two Bit Creek, west of the mine site, may be impacted depending on the discharge points for disposing of the ground water inflows from the pit. If all the ground water inflow to the pit is disposed of in Two Bit Gulch the flow may exceed the ability of the gulch to handle the water without suffering accelerated erosion and resultant gullying. If indeed the amount of water to be discharged exceeds the flow capacity of Two Bit Creek it may be necessary to divert some of the excess water to Strawberry Creek at a point where it is below the level of influence of the open pit.

The report does not mention the use of ground water that flows into the pit as make-up water for the processing facility, only reclaimed water from the tailings disposal dam area and well water are discussed. Ground water flowing into the open pit could be used in part as a source of make-up water rather than depending entirely on well water to make up any shortfall between processing water requirements and the amount of water reclaimed from the tailings dam facility. Extensive use of water wells will result in additional draw down of ground water levels in the area.

Surface water springs, seeps, and ponds were found during the site survey and are reported to be associated with old mine workings and tailings. As stated previously, care should be taken to seal or otherwise protect these areas from the new mine facilities to prevent contamination from the old workings entering the new facilities. Also, seals could avoid later confusion about sources of contamination. Consideration should be given to processing the old tailings if practical. It may be necessary to reclaim other old mine workings in the surrounding area in order to assess future impacts that are attributable solely to the Gilt Edge Mine.

Mine Operation

The deposit will be mined by conventional truck and shovel methods. However, the document does not mention whether the use of conveyors to move mineralized

rock from the mine to the crusher will be evaluated. Unless this is not a practical alternative because of the geology in the pit or the expense involved, we believe it should be considered as a means of reducing the amount of dust generated by ore trucks. We understand that the nature of the waste rock disposal plan as described would not lend itself to the use of conveyors.

Water in Strawberry Creek is currently being protected from mining activity at the mine site, but plans for diverting water flow when the mine pit intercepts the creek are not discussed in the report. Because Strawberry Creek flows through the pit area, when the pit is no longer actively mined the water level in the pit will rise to the water level where the creek would naturally exit the pit area. Mine plan maps indicate the water depth may reach 900 feet in the smaller mine plan and 1,600 feet in the larger mine plan. The proposal does not mention any plan to permanently divert creek water, through a lined canal, around the pit to maintain water quality in the creek or to control the water level in the pit. If ground water seepage into the pit would bring the water level in the pit to the natural water level of Strawberry Creek a bypass would not help control the water level in the pit.

In the following sections a statement from the Plan of Operations is followed by numbered questions referring to that subject.

Waste dumps

Mineralized waste rock will be stockpiled near the mill for possible processing should that become economically feasible.

1. What types of surface runoff containment features would be constructed around the stockpile? Silt from the broken rock could easily become a sediment problem during heavy rain storms.

The waste rock dumps will include french drains to collect water from the dumps. The document states the waste rock has a low potential to generate acid.

1. Has this been documented and what provisions for contingency plans are there for treating the water if acid should be generated?

2. If the water is to be collected and used in the mill, would it require treatment?

3. How would the collected water be moved from the collection ponds to the mill site? Would it be pumped by pipeline or collected by pumping into trucks? Either way, if acid water is generated, some contingency plan for handling spills would be needed.

4. If acid water is generated when surface water percolates through the waste rock dumps, would treatment of the recovered water be necessary to prevent transference of contaminants to the ore being treated in the processing facility?

5. The waste dumps, when filled to capacity, are to be sealed with compacted natural soils. Would this be material from the mine site or a clay material such as bentonite?

6. What are the long term plans for treatment of water seepage from the waste ore dumps after the mine is closed? Would a wetlands-based treatment system be established to control possible mine drainage pollution?

Process Facilities

Tailings will be stored permanently in Lost Gulch. The document states that during operation of the mine the tailings impoundment is not expected to contain sufficient cyanide residue to harm wildlife.

1. What is the expected cyanide content?

2. What contingency plans are there for treating the cyanide if the tailings are found to be harmful?

3. What are the chemical and physical characteristics of the tailings slurry?

4. Will the pH of the tailings be neutral enough to eliminate the potential for leaching highly soluble toxic elements, such as heavy metals, with which the tailings, or water from the tailings, may come in contact; or, will it be necessary to treat the tailings with hydrogen peroxide or chlorine oxidation to neutralize the tailings slurry?

5. What will be the pulp density of the slurry?

6. What percent of the slurry will be sand? Slimes? Water?

Tailings are to be moved from the processing area to the tailings disposal dam by means of a pipeline. Report maps show the elevation changes along the tailings pipeline route from about 5640 feet at the processing plant to about 4940 feet at the initial dam embankment (5160 feet at the final dam embankment). This represents a change of up to 700 feet in elevation.

1. Will it be necessary to have energy-dissipation drop boxes along the pipeline to prevent excessive pipe pressures and high velocities that could result in rupture of the pipeline and discharge of the tailings?

2. What type of leak detection system will be used to monitor containment of the tailings in the pipeline?

3. Does the plan include a double set of pipelines, with crossover points, to allow maximum containment of the tailings slurry in case of leakage or failure in a section of the pipeline system? Such a failure could result from freezing of the slurry during extremely cold temperatures or a loss of pressure in the pipeline which would allow slurry solids to consolidate in low areas and rupture the pipeline.

4. If a double set of pipelines have not been proposed, does the plan call for a lined channel along the length of the pipeline to contain a spill and direct it toward the tailings dam?

Although not stated in the report, plan maps indicate the upstream embankment method will be used to raise the tailings dam as needed, with a minimum raise of 3 feet. This type of dam raising requires 40-60 percent sand in the total discharge of tailings.

1. Does this requirement fall within the specifications for slurry in the pipeline?

Upstream embankment dams are dependent on controlling the amount of water entering the system, a near total diversion of both normal runoff and flood water is essential.

1. Would surface run-off diversion channels be located at several elevations during the life of the tailings dam?

2. Would the diversion channels be lined to prevent seepage of water into the dam?

3. Would the diversion channels drain into the water recovery pond or would the flow be directed to the lower Lost Gulch drainage?

Control of the phreatic surface (internal water level) is also very important in upstream embankments as well as other types of tailings dams. Seepage must be restricted on the upstream core and drained by a downstream pervious zone to produce good phreatic surface control. Plan maps of the tailings dam indicate an impervious core will be used to restrict seepage.

1. What type of material will be used for the core?

2. Are any chemical reactions between the core material and the water moving through the tailings material expected?

3. With what type of material will the tailings dam be lined?

4. Will it be a low permeability material that will route water to the french drain piping?

5. Has the material been chemically characterized to determine what, if any, interaction can be expected with the tailings material?

6. Is there potential for a reduction in the acidity of the tailings water by contact with the lining material?

7. Can contact with the lining material be expected to reduce the concentration of contaminants?

Plan maps for the process water storage dam at the processing plant show a spillway that crosses the path of the tailings and water return pipelines.

1. What precautions are planned to protect the pipelines from heavy flows of water through the spillway?

2. Are the old foundations that are in the drainage through which spillway overflow will pass of historic significance?

3. How would the process water dam be sealed to prevent excess water loss?

Ancillary Mine Facilities

During the construction phase 10 to 15 trucks per day are expected to make deliveries to the mine.

1. What dust control measures are planned on the unpaved road leading to the mine facility?

A 2.5-mile long electric power line and a 5-mile long natural gas pipeline will be needed to provide service to the new processing facilities.

1. Have the routes been chosen and examined for natural resources including minerals?

According to other Brohm Mining Corporation literature, numerous siting alternatives for the various facilities were evaluated prior to the selection of the sites proposed by Brohm in the Plan of Operations. The company studied 15 potential locations for a processing plant, 6 for waste rock dumps, and 6 for the tailings dam. Will these siting alternatives be described and the factors leading to the selection of the proposed sites be included in the DEIS?

I hope these comments and questions will be helpful during your planning and coordination activities for the DEIS and perhaps stimulate additional questions that can be addressed during the early stages of DEIS preparation.

Eileen K. Peterson

Eileen K. Peterson, Physical Scientist
Intermountain Field Operations Center

ENSR

Formerly ERT

May 12, 1989

ENSR Consulting
and Engineering

1716 Heath Parkway
Fort Collins, CO 80524
(303) 493-8878

Mr. David Blackford
Nemo Ranger District-USFS
460 Main
Deadwood, SD 57732

Dear David:

Enclosed find a draft summary of the public scoping meetings and written comments received to date for the Brohm-Gilt Edge Expansion Project. We will update and refine this list as additional comment letters are received.

If you have any questions or comments, please contact Russ Moore or me.

Sincerely,

Phil Hackney

Phil Hackney
Assistant Project Manager

PH/jh

Ref: 1063-001

cc: D. Stewart (Brohm)
D. Cornman (Bechtel)

BROHM - PROPOSED GILT EDGE EXPANSION PROJECT

SUMMARY OF PUBLIC SCOPING MEETINGS AND WRITTEN COMMENTS

EIS Process

Not enough time for public to prepare for project of this size. Additional public meeting requested.	D. Sandidge -	D
	D. Fierge -	D
	D. Blum -	RC
	C. Butts -	RC
	L. Becker -	RC
EIS process period should be delayed until better project detail available to public.	D. Sandidge -	D
	D. Rogers -	RC
Concerned about absence of Native American input to process.	D. Matt -	RC
	W. Pettis -	RC
	M. Doyle -	
Establish a private steering consisting of citizens and environmental groups to assist in development of EIS.	D. Sandidge -	D
	L. Sandidge -	RC
Can FS provide sound staffing to complete EIS?	M. Mathews -	RC
Lawrence County commissioners ineffective in guarding public interests.	K. Schmidt -	RC
What are the costs to government and tax burden for EIS process?	G. Broyles -	D
	L. Sandidge -	RC
To ensure an unbiased study, no contact allowed between Brohm and ENSR.	D. Sandidge -	D
How will contractors complete unbiased study when Brohm pays bills conducted proposal solicitation?	D. Rogers -	RC
	A. Cundal -	RC
	D. Strom -	L
EIS should address cumulative impacts of proposed mine and other mining in the project area.	D. Matt -	RC
	K. Haines -	D
	R. Walter -	RC
	W. Pettis -	RC
	D. Pay -	RC
EIS should address alternative dump site and tailings site locations, pit reclamation alternatives.	D. Pay -	RC
	N. Hilding -	RC
EIS should address worst-case scenario particularly with respect to water pollution and health effects.	S. Fredrick -	RC
EIS should address long-term maintenance requirements, assess risks, and identify liabilities.	D. Rogers -	RC
	L. Sandidge -	RC
	D. Pay -	RC
The 1872 Mining law does not apply to Canadian firm.	M. Doyle -	RC

ID team should include artist or philosopher to balance input.	K. Brandager -	RC
	R. Hicks -	L
	S. Anderson -	L
	D. Tveidt -	L
	L. Pedersen -	L
	R. Kern -	L

Engineering

Does the Plan of Operations provide appropriate detail and accurate engineering data?	K. Brandager -	RC
	D. Sandidge -	D
	D. Fierge -	D
Existing oxide heap leach pad leaks - how can Brohm operate large project without problems?	J. McGinnis -	RC
	D. Rogers -	RC
	L. Sandidge -	RC
	K. Kipke -	RC
Operate underground mine as alternative to open pit.	D. Pay -	RC
	C. Larson -	D
	M. Doyle -	RC
Concerned that 15 years plus is too long an impact period.	K. Brandager -	RC
Concern over reliability of drainage system.	L. Sandidge -	RC
	K. Kepke -	RC
	D. Guetener -	RC
Safeguard against climatic events (e.g., flooding, high winds, freeze-thaw cycle, ice of pond) on proposed mining operation.	D. Matt -	RC
	C. Hyder -	RC
What happens to saturated recycled water?	D. Soms -	RC
Tremendous volume of material produces only ounces of gold.	G. Heaton -	RC
Will sulfide ore be autoclaved and roasted?	J. Erkman	

Groundwater/Surface Water

Quantity of water used and water source for mine and possible depletion of water supply to wells, springs, and streams (e.g., Bear Butte Creek).	D. Guetener -	RC
	D. Pay -	RC
	S. Baumberger -	RC
	C. Ryder -	RC
	D. Rogers -	RC
	J. Wells -	D
	J. Ertman -	D
	L. Tveidt -	D
	M. German -	D
	B. Nickish -	D
	K. Schmidt -	RC
Maintaining water quality of surface and groundwater in project area.	D. Pay -	RC
	M. Darland -	D
	H. Morrison -	D
	M. German -	D
	M. Doyle -	RC
	R. Kern -	L
	L. Pedersen -	L
	L. Hicks -	L
	D. Tveidt -	L
	D. Sours -	RC
Monitoring plan for water quality and quantity during and after mining.	J. Erkman -	D
	C. Hyder -	RC
Objectivity and regional perspective of existing water data base. U.S. Government, not Brohm, to supply water data (flows, quality). Utilize U.S. Geological Survey water study data for EIS.	D. Sandidge -	D
	M. Mathews -	RC
	K. Kepke -	RC
Mining depths may result in contact with aquifers and possible groundwater contamination.	R. Walter -	RC
	D. Sours -	RC
	D. Guetener -	RC
Aquifer depletion and inability to recharge.	M. Mathews -	RC
	D. Rogers -	RC
Concerned with containment barrier and quality assurance in construction.	M. Mathews -	RC
Concerned with State Water Resources Board willingness to relax water quality standards for Brohm existing oxide project.	M. Doyle -	RC
	D. Soms -	RC
	K. Kepke -	RC
Accuracy of projected water use volumes well below water use of existing mines (i.e., Homestake).	D. Rogers -	RC

Need acid mine drainage quantified relative to ore and waste piles, dust, and pit. Quantify trace elements in waste waters and runoff.	D. Rogers -	RC
	D. Sandidge -	D
	L. Sandidge -	RC
	D. Pay -	RC
	W. Sutliffe -	RC
Ruby Gulch would be contaminated by residual chemicals in leached ore.	D. Sours -	RC
Acceptable model should be used in predicting impacts to surface water and groundwater	D. Pay -	RC

Socioeconomics & Land Use

Potential of mining site to result in toxicity problems requiring public funded cleanup (i.e., Superfund).	D. Sandidge -	D
Property devaluation.	L. Tveidt -	D
	R. Walter -	RC
Loss of house (cabin) in proposed tailings dam area.	R. All -	D
Foreign investors.	I. Gurdis -	RC
	D. Fierge -	D
	M. McGinnis -	RC
	M. Doyle -	RC
	W. Pettis -	RC
	R. Hanna -	D
	R. Kern -	L
	S. Anderson -	L
	R. Ridge -	L
	D. Tveidt -	L
	P. Severson -	L
What percentage of the project employment are from South Dakota?	D. Sandidge -	D
Socioeconomic benefits do not warrant disturbance associated with proposed mine.	S. Hobbs -	RC
	R. Walter -	RC
Concerned with lack of economic development and reduced job opportunities (opportunity).	A. Oakes K. Baumgartner -	RC
What compensation does FS and public receive from use of land?	K. Kepke -	RC
	R. Walter -	RC
Impacts to Native Americans use of Bear Butte for tribal activities.	D. Pay -	RC
Impact of proposed project on multiple use on FS (public) land.	R. Fort -	D
	S. Baumberger -	RC

Increased traffic (amount and speed) along Gilt Edge Road and associated safety concerns in residential areas (i.e., Strawberry Subdivision)	R. Hanna – K. Moore –	D L
Future expansion of proposed mine on federal land where mineral claims established.	K. Brandager –	RC
Brohm should exercise land exchange ownership of lands disturbed.	C. Hyder –	RC
Impacts to recreational use of mine area.	W. Pettis – D. Pay – L. Pedersen – K. Moore – G. Shrader –	RC RC L L RC
Impact to grazing activities.	L. Tveidt –	D

Soils/Reclamation

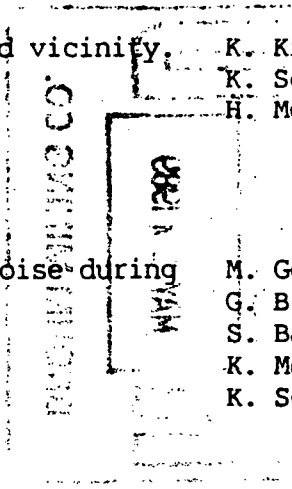
What is to guarantee that successful reclamation will take place and who sets reclamation standards?	C. Larson – G. Shrader – D. Rogers – R. Ridge – D. Guetener – P. Seversen – S. Anderson –	D RC RC L RC L L
Reclamation bond not sufficient to cover reclamation costs.	M. Mathews – C. Hyder –	RC RC
Feasibility of pit reclamation questioned.	D. Rogers –	RC

Wildlife/Fisheries

Impacts to rearing and calving areas and mountain goats.	D. Sandidge –	D
Loss of wildlife habitat and effects on wildlife.	H. Morrison – R. Hanna – D. Pay – L. Pedersen –	D D RC L
Impacts to fisheries in Bear Butte Creek.	M. German –	D
Impact on proposed elk transplant.	K. Schmidt –	RC
Potential impact to eagles in project vicinity.	K. Brandager –	RC

Visual/Aesthetics

Quality of life impacted.	D. Sandidge -	D
	M. German -	D
	K. Miller -	RC
Project visible from Bear Butte and other nearby ridges.	L. Sandidge -	RC
	K. Moore -	L
Impact on scenic value in project area and vicinity.	K. Kiplee -	RC
	K. Schmidt -	RC
	H. Morrison -	D



Air Quality

Control of dust and toxic emissions and noise during mine operation.	M. German -	D
	G. Broyles -	D
	S. Baumberger -	RC
	K. Moore -	L
	K. Schmidt -	RC

Cultural Resources

Impacts to historical site (Lost gulch cabins) in proposal tailing dam area.	M. German -	D
Anchor Hill fire lookout should be placed on historic registry.	L. Sandidge -	RC

D - Deadwood Public Scoping Meeting - May 2, 1989
RC - Rapid City Public Scoping Meeting - May 3, 1989
L - Comment letters received by BHNF

Public Scoping Document for the Proposed Brohm Mining Corporation Gilt Edge Expansion Project

U.S. Department of Agriculture
Black Hills National Forest
Nemo Ranger District
Deadwood, South Dakota

April 1989

INTRODUCTION

Brohm Mining Corporation (Brohm) has submitted a Plan of Operations to the Black Hills National Forest (BHNF) to expand an existing open pit gold mine operation and to construct an associated milling facility. This project, as proposed, would affect lands within the BHNF (Figure 1) in Lawrence County, South Dakota, approximately 4 miles southeast of the town of Deadwood. Brohm is wholly-owned by the MinVen Gold Corporation of Lakewood, Colorado.

In accordance with regulations for Minerals Management on National Forest System lands under the General Mining Laws (43 CFR 3809) and the implementing regulations (40 CFR 1505) for the National Environmental Policy Act (NEPA), the BHNF is preparing an environmental impact statement (EIS) to determine the potential environmental impacts of the proposed Gilt Edge Expansion Project on public lands. ENSR Consulting and Engineering has been contracted to assist the BHNF in preparation of the EIS.

Because Brohm's Notice of Intent includes expansion onto private and National Forest System lands within Lawrence County, a joint review committee has been established. The committee consists of the South Dakota Department of Water and Natural Resources; Lawrence County, South Dakota; and the BHNF. The Forest Supervisor of the BHNF is the responsible official for the EIS, and as the designated lead agency, the BHNF will be responsible for public notification regarding the proposal during the EIS process.

The BHNF encourages interested persons, organizations, and agencies to assist in the environmental analysis process by providing written or verbal comments on the issues and concerns to be addressed in the EIS. This scoping document provides an overview of the proposed Gilt Edge Expansion Project. It also provides a preliminary determination of the resources likely to be affected by the proposed project and some of the issues to be addressed in the EIS. Written comments may be submitted to the BHNF at the following address:

Mr. David Blackford, District Ranger
Nemo Ranger District - USFS
460 Main
Deadwood, SD 57732
(605) 578-2744

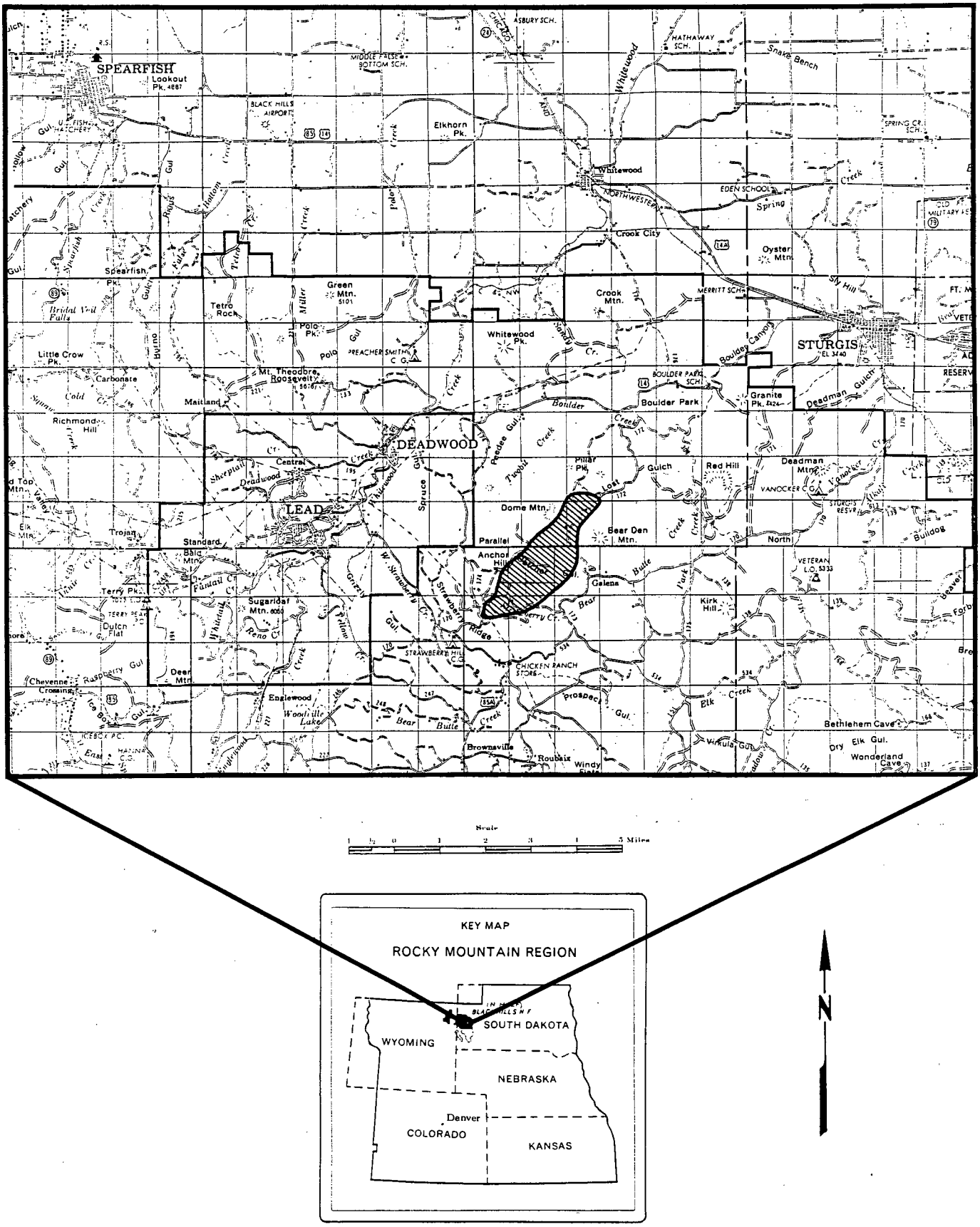


Figure 1. Approximate Project Location

Additionally, a public information meeting will be held to provide further information regarding the proposed project and the EIS process. Persons wishing to comment verbally may do so at the public scoping meeting scheduled for May 2, 7 p.m. at the Masonic Lodge in Deadwood, South Dakota and May 3, 7 p.m. at the Howard Johnson Motor Lodge (Washington Room) in Rapid City, South Dakota.

All written and verbal comments on the scope of the environmental analysis must be received by May 15, 1989.

PROJECT OVERVIEW

The proposed Gilt Edge Expansion Project would involve the enlargement of existing open-pit operations in conjunction with conversion to conventional milling techniques for precious metals recovery. The conversion ultimately would result in curtailment of heap leaching activities currently carried out at the location.

The Gilt Edge Expansion Project could directly impact approximately 1,675 acres within the applicant's 7,700-acre project area, which consists of patented and unpatented mining claims as well as fee land. At the end of the project operation, the mine and surface facility site would be reclaimed to meet the standards of the BHNF and State of South Dakota.

Brohm currently operates the Oxide Project at the site of the proposed Expansion Project. Oxide ores near the surface currently are being mined as an open pit (since 1988), and heap leaching technology is used to extract precious metals from the ore. Recent development drilling has proven sufficient underlying sulfide ore reserves to justify expanded mining operations. The sulfide ore (which is not amenable to heap leaching) would require construction of a conventional mill utilizing a combination of gravity separation and agitation leaching. The conventional mill would be constructed prior to mining of the sulfide ore. It is anticipated that heap leaching of oxide ore and milling of sulfide ore would occur concurrently until oxide ore reserves are exhausted. At that time, heap leach operations would be curtailed and all ore would be processed in the fully-contained mill structure.

Brohm would expand ore production to a rate of 6 million tons per year (from the current rate of 1.5 million tons per year), and anticipated mine life would be extended to 16 years (from the current anticipated 4 years). Geological information confirms additional sulfide ore at a depth that could justify future expansion to a rate of 8 million tons per year, depending on market conditions.

The project facilities would consist of an open pit, waste rock disposal area, sulfide and oxide ore stockpiles, mill and heap leach facilities (for a limited time), tailings impoundment, fresh water and process water ponds, and support facilities. Considerable portions of the mine infrastructure are in place as part of the ongoing Oxide Project.

Open-pit mining, waste rock disposal, and ore crushing methods would not differ significantly from methods currently carried out at the Oxide Project. Milling of the sulfide ore would entail grinding, agitation leaching (using cyanide), and recovery of the precious metals from solution by absorption on activated carbon. Tailings slurry would be delivered by pipeline to a tailings impoundment to be constructed in Lost Gulch. Impoundment construction would incorporate redundant groundwater protection components, including a low permeability earth and rockfill embankment; basin seal; an underdrainage blanket and fluid collection system; and a reclaim water pond that would collect water from the tailings before it is pumped back to the mill for reuse.

The Gilt Edge Expansion Project would employ an average construction workforce of 350 to 450 personnel. The full operations workforce would average approximately 250 to 300 persons (of which 100 are currently employed at the Oxide Project).

PUBLIC INVOLVEMENT

One purpose of the scoping process is to identify public issues, agency concerns, and potential opportunities from the proposed project. The issues and concerns identified by the public and agencies will be the driving force behind the development of project alternatives and measures to mitigate environmental consequences. The issues that you the public identify will help define the amount and type of analyses needed for the EIS. After the scoping process, all of the issues and concerns will be analyzed and used to determine the alternatives that will be studied in the EIS.

The BHNF and ENSR conducted a preliminary review to identify issues and concerns to be addressed in the EIS. Based on a very preliminary review, we have listed a few of the issues associated with potentially affected resources. This list is only a starting point, and public involvement is needed to assist in further developing the list and emphasizing the most important issues.

- Water Resources. The key water resource issues involve potential impacts to surface and groundwater quality due to potential acid mine drainage, sedimentation, seepage, etc. as well as engineering concerns with respect to potential impact on the Madison Formation (groundwater depletion and contamination) and ability of the tailings impoundment structure and waste dumps to withstand major flood events.

- Air Quality. Air quality issues relate to emissions of fugitive dust, noise, and other air pollutants from the mine and processing facilities.

- Wildlife Resources. Wildlife studies will focus on potential adverse effects to birds and mammals from sources of toxic materials, impacts to threatened or endangered species, impacts to fisheries, and native and introduced elk populations.

- Vegetation Resources. Vegetation resource concerns center on issues related to livestock management impacts, timber management practices, and reclamation bond issues associated with soils salvaging and replacement.

- Cultural Resources. Cultural resources investigations are required by Forest Service regulations in order to ensure that the proposed operations will comply with the National Historic Preservation Act and other laws and regulations requiring inventory and protection of significant cultural resources.

- Visual Resources. Visual resources investigations will address visual quality objectives, determine visual impacts to travel corridors or recreation sites, and investigate mitigative measures, if appropriate.

- Socioeconomics. Principal socioeconomic concerns include the availability of housing, community services, and transportation systems in the project area, in addition to project compliance with the BHNF Land Management Plan.

COMMENTS ON THE PRELIMINARY SCOPE OF THE EIS FOR THE
PROPOSED GILT EDGE EXPANSION PROJECT

Interested persons, organizations, and agencies are encouraged to submit written comments on the proposed scope of the EIS. Please use this form or mail a letter providing your ideas, suggestions, and comments. Comments should be received no later than May 15, 1989. EVEN IF NO COMMENTS ARE SUBMITTED, PLEASE LET US KNOW IF YOU WOULD LIKE TO REMAIN ON OUR MAILING LIST BY CHECKING THE BOX BELOW. FAILURE TO INCLUDE YOUR NAME AND ADDRESS CLEARLY PRINTED BELOW WILL MAKE IT IMPOSSIBLE TO INCLUDE YOU ON OUR MAILING LIST.

Name (please print) _____

Address (please print) _____

☐ Yes, I am interested in the Gilt Edge Expansion Project and would like to receive the subsequent EIS.

----------Fold Here----------

Mr. David Blackford, District Ranger
Nemo Ranger District - USFS
460 Main
Deadwood, SD 57732

----------Fold Here----------

DRAFT

Preliminary List of Agency Concerns

4/25/89

WATERSHED

HYDROLOGY

1.) Concern - Maintaining water quality of surface and ground water in project area (heavy metals and cyanide).

2.) Concern - Acid Mine Drainage from waste rock dumps and pits, (both during mining and future potential after weathering).

3.) Concern - Amount of water consumed by mining and possible dewatering of springs and meadows (by lowering of water table).

4.) Concern - Effects on the Madison Formation both during operations and post mining.

5.) Concern - Flood potential and effects on tailings structure, and waste dumps.

6.) Concern - Controlling increased sedimentation due to vegetation removal at the sites both during construction and mine operation.

7.) Concern - Will bedrock under tailings pond area allow seepage of contaminants?

8.) Concern - What effect will the project have on domestic wells in the area?

9.) Concern - How can we predict what the water quality will be in the proposed lake, due to weathering and oxidation of the pit?

10) Concern - Why are some monitoring wells high in pH?

11) Concern - Is there enough water available to get the water rights for this project?

SOIL - RECLAMATION

1.) Concern - Do we have enough soil material to provide a good growth medium for reclamation?

2.) Concern - How much soil is already stockpiled?

3.) Concern - How much soil should be applied to barren areas for successful reclamation?

4.) Concern - What parameters will be used to determine if reclamation is successful and allow bond release?

5.) Concern - Is a more intensive soil resource inventory needed, over and above the SCS survey?

6.) Concern - Will soil stockpiles be stablized (vegetated) and protected (not dumped upon, roaded etc.) during construction and mining?

7.) Concern - What opportunity will be available for concurrent reclamation during the mine life?

8.) Concern - Develop separate seed mixes for intermittent (quick establishment for short period of time) and final reclamation practices.

9.) Concern - Restoring vegetation communities to as near a natural condition as possible after mining.

10) Concern - Stability of topsoil after reclamation is completed.

11) Concern - Will the toxicity of tailings be detrimental to reclamation?

WILDLIFE & FISHERIES

1.) Concern - Will the project have any affect on Federal Listed (T&E) wildlife species?

2.) Concern - Will any BHNF management indicator species or habitat be affected and to what extent?

3.) Concern - How much displacement of other wildlife species will this project cause both directly and indirectly?

4.) Concern - Will the project have adverse affects on existing or potential fisheries due to water quality?

5.) Concern - Will the project negatively affect the planned elk introduction east of the project area?

6.) Concern - What will be the long and short term affects be on wildlife habitat and species.

7.) Concern - Increased wildlife law enforcement?

8.) Concern - Compatibility with special and unique lands.

ENGINEERING

1.) Concern - Road design and location to provide a safe, useable road with minimal sediment production.

2.) Concern - Long term waste dump stability and sediment control from the dumps.

3.) Concern - Tailings dam design and integrity.

4.) Concern - Controlling surface runoff, above the tailings pond, from entering the tailings area.

5.) Concern - Pollution leaks from the tailing pond area.

6.) Concern - Spill prevention plan for hazardous materials that are transported to the project and stored on site.

AIR QUALITY AND NOISE

1.) Concern - How will the air quality in the airshed be affected? Will it meet state standards?

2.) Concern - What will the noise levels be to affected sensitive receptor areas (e.g. Galena and Strawberry ridge)?

3.) Concern - Is radon gas a potential problem from the tailings and waste rock areas?

SOCIOECONOMICS AND LAND USES

1.) Concern - How does this project comply with "Black Hills National Forest Land Management Plan"?

2.) Concern - How will this project affect other National Forest System Land and private land in the surrounding area, due to increased population and recreation use?

3.) Concern - How much additional traffic will use the Gilt Edge Road with the Mine Expansion?

4.) Concern - Where will utility corridors be placed?

5.) Concern - Is there the potential for additional expansion of this project, and if so where would the additional waste material go?

6.) Concern - Is there enough housing in the area to handle the expansion, both during construction and operation?

7.) Concern - Increased use of county roads will increase maintence costs.

8.) Concern - Increased population will increase the need for additional police and fire protection.

9.) Concern - Additional impact on local school system.

10) Concern - Will this expansion hire local people where possible?

11) Concern - How will this expansion affect the quality of life to local home owners and the northern hills in general?

12) Concern - Can reclamation produce good productive future land use that will benefit the public?

13) Concern - How much public access will be lost during the proposed project?

RANGE

1.) Concern - How will this project affect livestock management in the Bear Butte and Pillar Peak Allottments?

2.) Concern - Will this project cause a decrease in permitted livestock?

3.) Concern - Potential for the project to introduce exotic plant species and noxious weeds.

CULTURAL RESOURCES

1.) Concern - Will cultural resource sites be impacted by the expansion and to what extent can impacts be mitigated?

2.) Concern - Are there alternatives that will cause less of a disturbance to cultural resource sites?

3.) Concern - There are two sites that may be possilbe candidates for the National Register of Historic Places

4.) Concern - Cumulative impacts to cultural resource sites in the northern black hills, due to mining.

VISUAL RESOURCES

1.) Concern - What are the Visual Quality Objectives for the project area and how will they be affected?

2.) Concern -Will the projcet be visible from travel corridors or recreation sites?

3.) Concern - If the project is visible can it be screened?

FIRE

1.) Concern - With the increased activity the potential for wildfire also increases.

2.) Concern - What actions will Brohm take to decrease the likelihood of wildfire on the property?

TIMBER

1.) Concern - How much volume and value of timber will be impacted by this proposal?

2.) Concern - Will the timber be harvested and the profits returned to the treasury?

3.) Concern - How will the new Timber Management road system in Lost Gulch be affected?

4.) Concern - How will slash, wood product and stumps be disposed?

U.S.F.S. - Major Issues to be addressed by Brohm.. Public hearings will add to this list.

DRAFT

WATERSHED

HYDROLOGY

1.) Concern - Maintaining water quality of surface and ground water in project area (heavy metals and cyanide).

2.) Concern - Acid Mine Drainage from waste rock dumps and pits, (future potential after weathering).

3.) Concern - Amount of water consumed by mining and possible dewatering of springs and meadows (by lowering of water table).

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7.) Concern - What opportunity will be available for concurrent reclamation during the mine life?

8.) Concern - Develop separate seed mixes for (quick establishment for short period of time / few years) intermittent and final reclamation practices.

9.) Concern - Restoring vegetation communities to as near a natural condition as possible after mining.

WILDLIFE & FISHERIES

1.) Concern - Will the project have any affect on Federal Listed (TEOS) wildlife species.

2.) Concern - Will any BHNF management indicator species or habitat be affected and to what extent.

3.) Concern - How much displacement of other wildlife species will this project cause both directly and indirectly.

4.) Concern - Will the project have adverse affects on existing or potential fisheries.

5.) Concern - Do elk use the project area, and if so how will they be affected?

ENGINEERING

1.) Concern - Road design and location to provide a safe, useable road with minimal sediment production.

2.) Concern - Long term waste dump stability and sediment control from the dumps.

3.) Concern - Tailings dam design and integrity.

4.) Concern - controlling surface runoff, above the tailings pond, from entering the tailings area.

5.) Concern - Pollution leaks from the tailing pond area.

6.) Concern - Spill prevention plan for hazardous materials that are transported to the project and stored on site.

AIR QUALITY AND NOISE

1.) Concern - How will the air quality in the airshed be affected? Will it meet state standards.

2.) Concern - What will the noise levels be to affected sentive receptor areas (e.g. Galena and Strawberry ridge.)

SOCIOECONOMICS AND LAND USES

1.) Concern - How does this project comply with "Black Hills National Forest Land Management Plan".

2.) Concern - How will this project affect other National Forest System Land and private land in the surrounding area, due to increased population and recreation use.

RANGE

1.) Concern - How will this project affect livestock management in the Bear Butte and Pillar Peak Allottments.

2.) Concern - Will this project cause a decrease in permitted livestock.

CULTURAL RESOURCES

1.) Concern - Will cultural resource sites be impacted by the expansion and to what extent can impacts be mitigated?

2.) Concern - Are there alternatives that will cause less of a disturbance to cultural resource sites.

VISUAL RESOURCES

1.) Concern - What are the Visual Quality Objectives for the project area and how will they be affected?

2.) Concern -Will the projcet be visible from travel corridors or recreation sites?

3.) Concern - If the project is visible can it be screened?

FIRE

1.) Concern - With the increased activity the potential for wildfire also increases.

2.) Concern - What actions will Brohm take to decrease the likelihood of wildfire on the property?

TIMBER

1.) Concern - How much volume and value of timber will be impacted by this proposal?

2.) Concern - Will the timber be harvested and the profits returned to the treasury?

3.) Concern - How will the new Timber Management road system in Lost Gulch be affected?

4.) Concern - How will slash, wood product and stumps be disposed?

Accounts Payable

Current	551,042.53
1-30 Days	768,521.26
31-60 Days	433,734.20
61-90 Days	588,373.12
Over 90 Days	1,774,742.63
	4,116,413.74

Cash on hand as of May 31: 72,665.68

Gold Oz Available for Sale 5-31-92: 1,776.73

May Cash Calls: 800,000.00

Cash Received: 495,000.00

May Gross Sales: Au only 784,772.50